Listing of Claims:

1. (Previously presented) A device for data communication between a first host device or a further host device and at least one client device on a shared transmission path having:

a first host device, which includes a host application;

at least one further host device, which includes a host application;

at least one client device, which includes a client application; and

a bus control module;

the host devices each having a master application interface module, which is linked in the transmission path;

the host devices each having a master application module which connects the particular host application to the assigned master application interface module;

each client device having a client application interface module, which is linked in the transmission path and is connected to the assigned client application;

the transmission path being implemented as a data bus representing a ring connector;

the respective master application interface module of each host device and the respective client application interface module of each client device being connected to one another by the data bus for exchanging data and/or signals with one another and

the bus control module being implemented to control the access of the host devices to the data bus, wherein

the bus control module is provided in the ring structure of the data bus and is connected to the respective master application interface module of each host device and the respective client application interface module of each client device by the data bus for exchanging data and/or signals with one another and

the bus control module is provided with a counter which counts the pulses between the passage of two arbitration frames relayed on the data bus and

the bus control module is provided with a comparator circuit which compares the number of the elapsed pulses between the two arbitration frames against a predetermined target number of said pulses and

when the number of said elapsed pulses exceeds said predetermined target number, the bus control module transmits a new arbitration frame having a deactivated activity bit in order to release the blocked data bus.

2. (Previously Presented) The device according to Claim 1, wherein the host applications of the first and/or the further host devices have a processor.

3-6. (Canceled)

7. (Previously Presented) A method of data communication in a device for data communication as claimed in Claim 1 between a first host device or a further host device and at least one client device on a shared transmission path implemented as a data bus representing a ring connection, having the following steps:

opening a communication connection between a host application running on the host device and a client application running on the client device;

transmitting arbitration information on the data bus along the opened communication connection, the arbitration information containing data, on the basis of which the data bus is reserved for a predetermined time interval or for a predetermined data volume for a subsequent data transmission on the data bus along the opened communication connection;

transmitting data and/or signals between the host application and the client application and/or between the client application and the host application on the data bus along the opened communication connection

wherein the passage of an arbitration frame containing the arbitration information on the data bus is monitored by a bus control module in such a way that the pulses between two passages of the arbitration frame are counted and

wherein a new arbitration frame having a deactivated activity bit is transmitted by the bus control module when the number of counted pulses exceeds a predetermined value.

8. (Previously Presented) The method according to Claim 7, wherein the arbitration information is transmitted as an arbitration block, an arbitration block having arbitration data which includes information about the length of the predetermined time interval or about the extent of the predetermined data volume for the subsequent data transmission.

9. (Previously Presented) The method according to Claim 8, wherein the arbitration block has activity data which includes information about the current state of the transmission path, from which it may be concluded whether the transmission path is currently being used for data transmission.

10. (Previously Presented) The method according to Claim 7, wherein in the event of an access wish of a host application to the transmission path, the following steps are performed:

the master application interface module assigned to the host application accepts the arbitration block present on the transmission path,

reads out the activity data,

checks, on the basis of the activity data, whether the transmission path is currently free for data transmission,

writes, if the transmission path is free, activity data in the arbitration block which indicates use of the transmission path by the host application, and

transfers the arbitration block to the bus control module via the transmission path;

upon which the bus control module reserves the transmission path for the access by the host application.

11. (Previously Presented) The method according to Claim 10, wherein after termination of a data transmission, the activity data in the arbitration block is reset by the master application interface module and the transmission path is thus released again.

12. (Previously Presented) A method of data communication in a device for data communication as claimed in Claim 1 between a first host device or a further host device

and at least one client device on a shared transmission path implemented as a data bus representing a ring connection, comprising:

opening a communication connection between a host application running on the host device and a client application running on the client device;

transmitting arbitration information provided in an arbitration block on the data bus along the opened communication connection, the arbitration information containing data, on the basis of which the data bus is reserved for a predetermined time interval or for a predetermined data volume for a subsequent data transmission on the data bus along the opened communication connection;

transmitting data and/or signals between the host application and the client application and/or between the client application and the host application on the data bus along the opened communication connection;

wherein in the event of an access wish of a host application to the transmission path, the following steps are performed:

the master application interface module assigned to the host application accepts the arbitration block present on the transmission path,

reads out activity data from the arbitration block,

checks, on the basis of the activity data, whether the transmission path is currently free for data transmission,

writes, if the transmission path is free, activity data in the arbitration block which indicates use of the transmission path by the host application, and

transfers the arbitration block to the bus control module via the transmission path;

upon which the bus control module reserves the transmission path for the access by the host application and

wherein the passage of an arbitration frame containing the arbitration information on the data bus is monitored by a bus control module in such a way that the pulses between two passages of the arbitration frame are counted and

wherein a new arbitration frame having a deactivated activity bit is transmitted by the bus control module when the number of counted pulses exceeds a predetermined value.

13. (Previously Presented) A device for data communication between a first host device or a further host device and at least one client device on a shared transmission path having:

a first host device, which includes a host application;

at least one further host device, which includes a host application;

at least one client device, which includes a client application; and

a bus control module;

the host devices each having a master application interface module, which is linked in the transmission path;

the host devices each having a master application module which connects the particular host application to the assigned master application interface module;

each client device having a client application interface module, which is linked in the transmission path and is connected to the assigned client application;

the transmission path being implemented as a data bus representing a ring connector;

the respective master application interface module of each host device and the respective client application interface module of each client device being connected to one another by the data bus for exchanging data and/or signals with one another and

the bus control module being implemented to control the access of the host devices to the data bus, wherein

the bus control module is provided in the ring structure of the data bus and is connected to the respective master application interface module of each host device and the respective client application interface module of each client device by the data bus for exchanging data and/or signals with one another and

the bus control module is provided with a counter which counts the pulses between the passage of two arbitration frames relayed on the data bus and

wherein in the case of a blocked data bus the bus control module transmits a new arbitration frame having a deactivated activity bit in order to release the blocked data bus.